

# Meditation reduces the emotional impact of pain

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People who meditate regularly find pain less unpleasant because their brains anticipate the pain less, a new study has found.

Scientists from The University of Manchester recruited individuals into the study who had a diverse range of experience with meditation, spanning anything from months to decades. It was only the more advanced meditators whose anticipation and experience of pain differed from non-meditators.

The type of meditation practised also varied across individuals, but all included 'mindfulness meditation' practices, such as those that form the basis of Mindfulness-Based [Cognitive Therapy](#) (MBCT), recommended for recurrent [depression](#) by the National Institute for Health and Clinical Excellence (NICE) in 2004.

"Meditation is becoming increasingly popular as a way to treat chronic illness such as the pain caused by arthritis," said Dr Christopher Brown, who conducted the research. "Recently, a mental health charity called for meditation to be routinely available on the NHS to treat depression, which occurs in up to 50% of people with [chronic pain](#). However, scientists have only just started to look into how meditation might reduce the emotional impact of pain."

The study, to be published in the journal *Pain*, found that particular areas of the [brain](#) were less active as meditators anticipated pain, as induced by a laser device. Those with longer meditation experience (up

to 35 years) showed the least anticipation of the laser pain.

Dr Brown, who is based in Manchester's School of Translational Medicine, found that people who meditate also showed unusual activity during anticipation of pain in part of the [prefrontal cortex](#), a brain region known to be involved in controlling attention and thought processes when potential threats are perceived.

He said: "The results of the study confirm how we suspected meditation might affect the brain. Meditation trains the brain to be more present-focused and therefore to spend less time anticipating future negative events. This may be why meditation is effective at reducing the recurrence of depression, which makes chronic pain considerably worse."

Dr Brown said the findings should encourage further research into how the brain is changed by meditation practice. He said: "Although we found that meditators anticipate pain less and find pain less unpleasant, it's not clear precisely how meditation changes brain function over time to produce these effects.

"However, the importance of developing new treatments for chronic pain is clear: 40% of people who suffer from chronic pain report inadequate management of their pain problem."

In the UK, more than 10 million adults consult their GP each year with arthritis and related conditions. The estimated annual direct cost of these conditions to health and social services is £5.7 billion.

Study co-author Professor Anthony Jones said: "One might argue that if a therapy works, then why should we care how it works? But it may be surprising to learn that the mechanisms of action of many current therapies are largely unknown, a fact that hinders the development of

new treatments. Understanding how meditation works would help improve this method of treatment and help in the development of new therapies.

"There may also be some types of patient with chronic pain who benefit more from meditation-based therapies than others. If we can find out the mechanism of action of [meditation](#) for reducing pain, we may be able to screen patients in the future for deficiencies in that mechanism, allowing us to target the treatment to those people."

Provided by University of Manchester

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